

distances, which I think not worth the while to describe. Then immediately after the Lens I placed a Prism, by which the trajected Light might be refracted either upwards or sideways, and thereby the round Image which the Lens alone did cast upon the Paper might be drawn out into a long one with Parallel Sides, as in the third Experiment. This oblong Image I let fall upon another Paper at about the same distance from the Prism as before, moving the Paper either towards the Prism or from it, until I found the just distance where the Rectilinear Sides of the Image became most distinct. For in this case the circular Images of the hole which compose that Image after the same manner that the Circles *ag*, *bh*, *ci*, &c. do

Fig. 23. the Figure *pt*, were terminated most distinctly without any Penumbra, and therefore extended into one another the least that they could, and by consequence the mixture of the Heterogeneous Rays was now the least of all. By this means I used to form an oblong Image (such as is *pt*) of circular Images of the hole (such as are *ag*, *bh*, *ci*, &c.) and by using a greater or less hole in the Window-shut, I made the circular Images *ag*, *bh*, *ci*, &c. of which it was formed, to become greater or less at pleasure, and thereby the mixture of the Rays in the Image *pt* to be as much or as little as I desired.

Fig. 24. *Illustration.* In the 24th Figure, F represents the circular hole in the Window-shut, MN the Lens whereby the Image or Species of that hole is cast distinctly upon a Paper at J, ABC the Prism whereby the Rays are at their emerging out of the Lens refracted from J towards another Paper at *pt*, and the round Image at J is turned into an oblong Image *pt* falling on that other Paper. This Image *pt* consists of Circles placed one after another in a Rectilinear order, as was sufficiently explained in the fifth Experiment;

Experiment; and consequently therefore by diminishing, while By this means I made it forty times, and its length. As for the hole be $\frac{1}{10}$ of an Inch, the hole be 12 F the Image *pt* from the refracting Angle of the Image *pt* will be six Inches, and the to 1, and by consequence compound thus far Simple and all the Experiment the composition of little that it is scarce sense, except perhaps being dark Colour little scattering Light by the inequality of

Yet instead of tute an oblong hole with its length Parallel the hole be an Inch or part of an Inch broad *pt* will be as Simple will become much Experiments tried

Instead of this I Triangular one of